

REMARKS

Applicants respond hereby to the outstanding Office Action mailed February 2, 2005, in this application.

By the Request To Make Drawing Amendments that accompanies this Amendment, applicants have amended drawing Figs. 1 and 3, substantially in accordance with the Examiner's suggestions at paragraph 1 of the office action. Applicants believe that all of the figures now conform to proper US Patent practice, and respectfully request withdrawal of the paragraph 1 drawing objections.

Each of the pending claims 1-9 is amended hereby; no new matter is introduced.

Response To Rejections Under 35 USC § 102

Claim 1-4 were rejected under 35 USC § 102(b) as anticipated by US Patent No. 6,424,732 to Shiffman. That is, the Examiner states that Shiffman discloses a method in which individual images succeed one another in a direction of succession, such as in CT imaging, that a multidimensional data set is constructed from the individual images (col. 8, lines 4-5; Fig. 8, 42). The Examiner states that Shiffman discloses that the multidimensional data set assigns data values to positions in a multi-dimensional space (col. 6, lines 61-2), which is set by the direction of succession and two directions parallel to the surface of individual images (Fig. 8), that is, the cross-sections are stacked upon one another.

The Examiner further states that a slice through the multi-dimensional data set is reconstructed through the multidimensional space (col. 8, lines 15-17), that the direction of the cut plane has a component in the direction of succession (col. 8, line 17), and a region of interest is located on the basis of the cut plane (col. 9, lines 21-25), and each element mentioned also applies to claims 7, 8 and 9.

Applicants have reviewed the outstanding office action, as well as Shiffman as cited by the Examiner, and respectfully assert that claims 1, 7, 8 and 9 are patentably distinguishable from Shiffman for at least the following reasons.

Applicants' independent claim 1 sets forth a method of processing images to identify regions of interest within a multi-dimensional data set. The steps include acquiring image data in such a way that individual images succeed one another in a direction of succession, constructing a

multi-dimensional data set from the individual images, which multi-dimensional data set assigns data values to positions in a multi-dimensional space, established by the direction of succession and two directions parallel to the surface of the individual images, reconstructing a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space such that the direction of the cut plane has a component in the direction of succession, and locating a region of interest on the basis of the cut plane.

Applicants' independent claim 7 sets forth an image processing system arranged to process individual images that succeed one another in a direction of succession, and to reconstruct a multi-dimensional data set from the individual images. The system includes processing means which a) utilizes the multi-dimensional data set to assign data values to positions in a multi-dimensional space set up by the direction of succession and two directions parallel to the surface of the individual images, b) reconstructs a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space, wherein the direction of the cut plane has a component in the direction of succession, and c) locates a region of interest on the basis of the cut plane.

Applicants' independent claim 8 sets forth a computer-readable medium comprising a set of computer-readable instructions by which a microprocessor or like device capable of reading said instructions is able to process individual images that succeed one another in a direction of succession, reconstruct a multi-dimensional data set from the individual images, assign data values to positions in a multidimensional space set up by the direction of succession and two directions parallel to the surface of the individual images, reconstruct a slice through the multi-dimensional data set along a cut plane through the multi-dimensional space, where the direction of the cut plane has a component in the direction of succession, and locate a region of interest on the basis of the cut plane.

Shiffman, while generally relating to segmenting selected object images, it does so in order to remove background artefacts and image leaks that result from closely spaced object-images, using information obtained by thresholding and inherent shape of objects under review. And while the Examiner asserts that Shiffman teaches that the direction of the cut plane has a component in the direction of succession (col. 8, line 17), and a region of interest is located on the basis of the cut plane (col. 9, lines 21-25), applicants do not Shiffman to provide same. That is, col. 9, lines 21-25 don't refer at all to identifying a region of interest on a basis of the cut plane, as claimed in all of

applicants' independent claims. Shiffman merely states that "[o]nce it is ascertained all the cross-section in the two-dimensional planes that belong to objects images that are being segregated, the entire image volume can be edited to exhibit only the segregated object images as shown in Fig. 14." For that matter, Fig. 14 does not remedy the failure to disclose the required claims element.

There, applicants respectfully assert that none of independent claims 1, 7 and 8 are anticipated by Shiffman under 35 USC § 102(b), and respectfully request withdrawal of the rejection of independent claims 1, 7 and 8 in view of Shiffman under 102(b). For that matter, applicants respectfully assert that claims 2-4, and 9, which depend respectively from independent claims 1 and 8, are also patentable in view of Shiffman for at least the reasons set forth above for the patentability of independent claims 1, 7 and 8 under 102 (b), and requests withdrawal of the rejections of claims 2-4 and 9 as well as 1, 7 and 8.

Rejections under 35 USC § 103

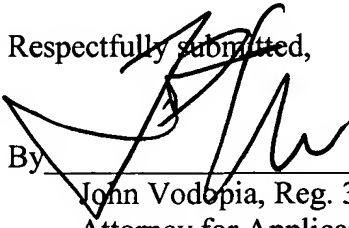
Claims 5 and 6 were rejected under 35 USC § 103 (a) as unpatentable over Shiffman in view of US Patent No. 5,457,754 to Han.

Applicants respectfully assert that regardless of whether Shiffman is combined with Han, whether there is some teaching or suggestion in either reference for combining them, their combination can still not render claims 5 and 6 obvious at least because Shiffman does not include identifying a region of interest on a basis of the cut plane, as claimed in all of applicants' independent claims. Hence, claims 5 and 6 cannot be obvious in view of the Shiffman/Han combination, and respectfully request the withdrawal of the rejection to claims 5 and 6 under 35 UC § 103(a).

Allowance of pending claims 1-9, and passage to issue of the application is respectfully requested.

Respectfully submitted,

By



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